

**CLAIMS**

1. A method of representing an image comprising calculating its 1-D Harr wavelet representation, amplitude projections, and combining said image with said 1-D Harr representation and said amplitude projections.
2. The method of claim 1 wherein said combining includes forming the discriminating feature analysis (DFA) vector of said image.
3. The method of claim 2 wherein said DFA is formed based upon training images.
4. The method of claim 3 wherein said DFA's from said training images are used to model face and non face classes using a single multivariate probability distribution function (PDF) for each of said face classes.
5. The method of claim 4 wherein said models are stored and used for later analysis of input images.
6. The method of claim 5 further comprising calculating the DFA of an input image to be analyzed.
7. The method of claim 6 further comprising using said DFAs of said input image to classify the image using a Bayesian classifier.
8. A method of classifying an input images as being of a first type or of a second type, the method comprising calculating PDF's of images classes of said first type and of said second type using a single multivariate Gaussian PDF, and utilizing said Gaussian PDFs in conjunction with at least one input image to classify said input image as either being of a first type or of a second type.
9. The method of claim 8 wherein said first type is a face and said second type is a nonface.
10. The method of claim 9 wherein the PDF's of the face and nonface classes are calculated only after first calculating the DFA of each of a plurality of training images.
11. The method of claim 10 wherein a DFA of an input image is calculated and a Bayesian discriminator function is used to process the DFAs of the input image to classify said input image as either a face or nonface.
12. The method of claim 11 wherein said PDFs of the face and non face classes are calculated during training based upon a sample set of at least several hundred FERET images.